4.2 Air Quality

This section evaluates the potential for the Master Plans to conflict with or obstruct implementation of an applicable air quality plan, to violate an air quality standard, to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is not in attainment, or to expose sensitive receptors to substantial pollutant concentrations. Greenhouse gas emissions associated with the Master Plans are discussed in Section 4.7 (Greenhouse Gas Emissions) of this EIR.

As discussed in Chapter 4, Environmental Analysis, the following CIP projects have been adequately addressed in previous CEQA documents and are not included in this analysis: Sewer CIP Projects SR-6, SR-10, SR-25, N-1, N-2, N-5, N-7, N-8, N-10, N-11, I-3, I-4, I-5, and I-6; Water CIP Projects 7, 8, 40, and R6; and Recycled Water CIP Project ES3. The exception is impact related to air pollutant emissions during construction because some of these projects would be constructed at the same time as the remaining CIP projects and would contribute to cumulative worst-case construction emissions that would result from the Master Plans.

4.2.1 Environmental Setting

4.2.1.1 Climate and Meteorology

Regional climate and local meteorological conditions influence ambient air quality. All of the Master Plans CIP projects are located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.

Subsidence inversions occur during warmer months, as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation, and the air aloft remain warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

In the vicinity of the sewer, water, and recycled water service areas, the nearest climatological monitoring station is located in Oceanside. Climatological monitoring stations collect temperature and precipitation data. The normal daily maximum temperature is 74 degrees Fahrenheit (°F) in August, and the normal daily minimum temperature is 44 °F in January, according to the Western Regional Climate Center (WRCC 2012). The normal precipitation in Oceanside is 11 inches annually, occurring primarily from November through March.

4.2.1.2 Existing Air Quality

Historically, air quality laws and regulations have divided air pollutants into two broad categories: “criteria air pollutants” and “toxic air contaminants.” Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding health and/or environmental effects of pollution (U.S. Environmental Protection

Agency [EPA] 2010). Toxic air contaminants (air toxics or toxic air pollutants) are often referred to as "non-criteria" air pollutants because ambient air quality standards have not been established for them. Under certain conditions, toxic air contaminants may cause adverse health effects, including cancer and/or acute and chronic noncancerous effects. The following sections provide a description of relevant criteria air pollutants and toxic air contaminants, in addition to summarizing the existing air quality of the sewer, water, and recycled water service areas.

4.2.1.3 Criteria Air Pollutants

The criteria air pollutants pertinent to the analyses in this EIR are carbon monoxide, nitrogen oxides (NO_x), ozone, particulate matter (PM), and sulfur dioxide Other criteria air pollutants that national or state ambient standards have been established for include lead, visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The construction and operation of the proposed Master Plans facilities would not generate emissions of lead, visibility reducing particles, sulfates, hydrogen sulfide, or vinyl chloride. Therefore, these pollutants are not addressed in this EIR. The following describes the health effects for each of the remaining identified criteria air pollutants based on information published by the EPA (2010) and the California Air Resources Board (CARB) (2010).

Carbon monoxide (CO)

Carbon monoxide is a colorless, odorless, poisonous gas, produced by incomplete burning of carbon-based fuels, including gasoline, oil, and wood. Carbon monoxide is also produced from incomplete combustion of many natural and synthetic products. For instance, cigarette smoke contains carbon monoxide. When carbon monoxide gets into the body, it combines with chemicals in the blood and prevents the blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposures to carbon monoxide can cause serious health effects.

Nitrogen oxides (NO_x)

A general term pertaining to compounds, including nitric oxide, nitrogen dioxide, and other oxides of nitrogen. Nitrogen oxides are produced from burning fuels, including gasoline, diesel, and coal. Nitrogen oxides are smog formers, which react with volatile organic compounds to form smog. Nitrogen oxides are also major components of acid rain.

Ozone

Ozone is a corrosive gas composed of three oxygen atoms linked together. Ozone exists in two layers of the atmosphere. It occurs naturally in the stratosphere (upper atmosphere) where it absorbs and provides a protective shield against the sun's damaging ultraviolet radiation. Ozone also exists in the troposphere (lower atmosphere), and even near ground level, where it can cause health effects in humans including respiratory and eye irritation and decreases in lung function and capacity. Ozone is not emitted directly in the air, but at ground level is formed by chemical reactions of "precursor" pollutants – nitrogen oxides and volatile organic compounds (VOCs) – in the presence of sunlight. Ozone levels are higher during the spring and summer months.

Particulate matter (PM_{10} and $PM_{2.5}$)

Particulate matter includes dust, soot, and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road

construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems. Particulate matter is measured in microns, which are one millionth of a meter in length (or one-thousandth of a millimeter). PM_{10} is small (respirable) particulate matter measuring 10 microns in diameter while $PM_{2.5}$ is fine particulate matter no more than 2.5 microns in diameter.

Sulfur dioxide (SO_2)

Sulfur dioxide is a pungent, colorless gas formed primarily by the combustion of sulfur-containing fossil fuels, especially coal and oil. Some industrial processes, such as production of paper and smelting of metals, produce sulfur dioxide. Sulfur dioxide emissions have not been a problem in the SDAB because of the low sulfur fuels used in the region (San Diego Air Pollution Control District [SDAPCD] 2007).

4.2.1.4 Toxic Air Contaminants

Toxic air contaminants (TACs) are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. Adverse health effects of toxic air contaminants can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic.

The City and CMWD facilities do not currently generate substantial sources of TAC emissions that could pose or contribute to a health risk. Although some TACs could potentially be generated by the City or CMWD facilities in small quantities, no water, sewer, or recycled water facilities are currently listed within the *2010 Air Toxics "Hot Spots" Program Report for San Diego County* (SDAPCD 2011). This document lists the facilities in the county that are required to prepare health risk assessments (HRA) due to their generation of TACs, as well as the results of their annual HRAs. Companies and organizations listed within the report are those considered to pose possible health risks to the community of San Diego with regards to TACs.

4.2.1.5 Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The closest ambient monitoring stations to the sewer, water, and recycled water service areas are the Camp Pendleton station, the Escondido (East Valley Parkway) station, which is the closest station that measures carbon monoxide and PM_{10}, and the San Diego (Beardsley Street) station, which is the closest station that measures sulfur dioxide. Table 4.2-1 presents a summary of the ambient pollutant concentrations monitored at the Camp Pendleton, Escondido, and San Diego stations during the last three years (2009 through 2011). The corresponding NAAQS and CAAQS are presented in Table 4.2-2 The SDAB is currently designated as a non-attainment area for the state standard for PM_{10}, $PM_{2.5}$, 1-Hour and 8-Hour ozone, and the Federal 8-Hour Standard for ozone.

As shown in Table 4.2-1, the one-hour ozone concentration did not exceed the state standard anytime during 2009, 2010, or 2011. The 8-hour ozone concentration exceeded both the state and federal standard in 2009 and 2010. The state standard was exceeded twice in 2011. The daily PM_{10} concentration exceeded the state standard in 2009, but not in 2010 or 2011. The federal standard was not exceeded during this period. The federal 24-hour $PM_{2.5}$ standard was not exceeded during 2009, 2010, or 2011.

Neither the state nor federal standards for carbon monoxide, NO_2, or sulfur dioxide were exceeded at any time during the years 2009 through 2011. The federal annual average NO_2 standard has not been exceeded since 1978 and the state one-hour standard has not been exceeded since 1988 (SDAPCD 2007). With one exception during October 2003, the SDAB has not violated the state or federal standards for carbon monoxide since 1990 (SDAPCD 2007).

Table 4.2-1 Air Quality Monitoring Data

Pollutant	Monitoring Station	2009	2010	2011
Ozone				
Maximum 1-hour concentration (ppm)	Camp Pendleton	0.090	0.092	0.085
Days above 1-hour state standard (>0.09 ppm)		0	0	0
Maximum 8-hour concentration (ppm)		0.077	0.079	0.071
Days above 8-hour state standard (>0.07 ppm)		5	1	2
Days above 8-hour federal standard (>0.075 ppm)		1	1	0
Carbon Monoxide				
Maximum 8-hour concentration (ppm)	Escondido (E. Valley Parkway)	3.24	2.46	2.20
Days above state or federal standard (>9.0 ppm)		0	0	0
Respirable Particulate Matter (PM_{10})				
Peak 24-hour concentration ($\mu g/m^3$)	Escondido (E. Valley Parkway)	74.0	43.0	40.0
Days above state standard (>50 $\mu g/m^3$)		1	0	0
Days above federal standard (>150 $\mu g/m^3$)		0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Peak 24-hour concentration ($\mu g/m^3$)	Camp Pendleton	26.9	26.1	30.7
Days above federal standard (>35 $\mu g/m^3$)		0	0	0
Nitrogen Dioxide				
Peak 1-hour concentration (ppm)	Camp Pendleton	0.068	0.081	0.066
Days above state 1-hour standard (0.18 ppm)		0	0	0
Sulfur Dioxide				
Maximum 24-hour concentration (ppm)	San Diego Beardsley Street	0.006	0.002	0.003
Days above 24-hour state standard (>0.04 ppm)		0	0	0
Days above 24-hour federal standard (>0.14 ppm)		0	0	0

ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter
Source: CARB 2012a

Table 4.2-2 State and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration[3]	Primary[3, 4]	Secondary[3,5]
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	--	Same as Primary Standards
	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m	--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	35 µg/m	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m	15 µg/m	
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)[6]	Same as Primary Standard
	1-hour	0.18 ppm (470 mg/m^3)	100 ppb (188 µg/m^3)[6]	None
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)[7]	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)[7]
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	--
	Annual Arithmetic Mean	--	0.030 ppm (for certain areas)[7]	--
Lead[8,9]	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3 (for certain areas)[11]	Same as Primary Standard
	Rolling 3-Month Average[9]	--	0.15 µg/m^3	
Visibility Reducing Particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.[10]	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	No Federal Standards	
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	

(1) California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

(2) National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

(4) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

(5) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(6) To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

(7) On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

(8) The CARB had identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

(9) The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(10) In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: CARB 2012b

4.2.2 Regulatory Framework

4.2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the EPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants. The current NAAQS are listed in Table 4.2-2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The EPA has classified air basins (or portions thereof) as being in "attainment," "non-attainment," or "unclassified" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a non-attainment or attainment designation. Table 4.2-3 lists the federal attainment status of the SDAB for the criteria pollutants. The EPA classifies the SDAB as in attainment for carbon monoxide, NO_2, lead, and sulfur dioxide, and unclassifiable for $PM_{2.5}$ and PM_{10} with respect to federal air quality standards.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. The most recent version of the SIP for San Diego County is the Eight-Hour Ozone Attainment Plan, adopted in May 2007.

Table 4.2-3 San Diego Air Basin Attainment Status

Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Ozone (1-hour)	Serious Non-attainment	--[(1)]
Ozone (8-hour)	Serious Non-Attainment	Non-attainment
Lead (Pb)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Non-attainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Non-attainment	Attainment\Unclassified

[(1)] The federal 1-hour ozone standard was revoked in 2005 and is no longer in effect for California.
Source: CARB 2011, EPA 2011

4.2.2.2 State

California Clean Air Act

The CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

In addition to standards set for the six criteria pollutants, California has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles (see Table 4.2-2). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary ambient air quality standards, California has established a set of episode criteria for ozone, carbon monoxide, NO_2, SO_2, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Table 4.2-3 lists the state attainment status of San Diego County for the criteria pollutants.

4.2.2.3 Local

San Diego County Regional Air Quality Strategy

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County, including the sewer, water, and recycled water service areas. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and agricultural equipment, which are regulated by the CARB or the EPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for ozone. The SDAPCD has also developed the SDAB's input to the SIP, which is required under the Federal CAA for pollutants that are designated as being in non-attainment of national air quality standards for the basin.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the county, to project future emissions and then establish the strategies necessary for the reduction of emissions through regulatory controls. The CARB

mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County of San Diego as part of the development of their general plans. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

In addition to the RAQS and SIP, the SDAPCD adopted the "Measures to Reduce Particulate Matter in San Diego County" report in December 2005. This report is based on particulate matter reduction measures adopted by CARB. SDAPCD evaluated CARB's list of measures and found that the majority were already being implemented in San Diego County. As a result of the evaluation SDAPCD proposed measures for further evaluation to reduce particulate emissions from residential wood combustion and from fugitive dust from construction sites and unpaved roads.

San Diego Air Pollution Control District Rule 55, Fugitive Dust Control

The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; and

2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective trackout/carry-out and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Erosion control measures must be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

San Diego Air Pollution Control District Rule 51, Nuisance

SDAPCD Rule 51 prohibits nuisances, including objectionable odors. The SDAPCD responds to odor complaints by investigating the complaint determining whether the odor violates SDAPCD Rule 51. The inspector takes enforcement action if the source is not in compliance with the SDAPCD rules and regulations (SDAPCD 2010). In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant.

Such means include shutdown of odor sources or requirements to control odors using add-on equipment.

4.2.3 Project Impacts and Mitigation

4.2.3.1 Issue 1 – Consistency with Applicable Air Quality Plan

Air Quality Issue 1 Summary

Would implementation of Sewer, Water, and Recycled Water Master Plans result in a conflict with or obstruct implementation of the applicable air quality plan?

Impact: The Sewer, Water, and Recycled Water Master Plans would not conflict with or obstruct implementation of the applicable air quality plan.	**Mitigation:** No mitigation required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Impacts are less than significant without mitigation.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the Master Plans would result in a conflict with or obstruct implementation of the San Diego County RAQS or applicable portions of the SIP.

Impact Analysis

The most current air quality planning document for the SDAPCD and thus the applicable air quality plan to the Master Plans is the 2009 RAQS (SDAPCD 2009). As discussed in Section 4.2.2.3, this plan was prepared by the SDAPCD for CARB as part of the SIP, to demonstrate how the SDAB would either maintain or strive to attain the NAAQS. The California SIP would also be applicable to the sewer, water, and recycled water service areas. California SIP documents are prepared by CARB to demonstrate how the entire state of California will maintain or attain the NAAQS.

The 2009 RAQS and SIP were developed based on growth assumptions, land use, and other information from SANDAG, which obtains information from the local jurisdictions general plans and growth assumptions. Growth assumptions made within the Master Plans to establish appropriate future service requirements were derived from the City's Growth Database, SANDAG data, and studies from neighboring water districts. The CIP projects included in each Master Plan is proposed to meet the projected buildout demand and would be implemented concurrently with development, or as repairs are needed. The size and capacities of the CIP projects are based on the projected growth would occur in the sewer, water, and recycled water service areas. The CIP projects would not generate any additional population and no unplanned growth would be served by the projects. The facilities in the proposed Master Plans are community service facilities, providing the infrastructure necessary to support planned population growth. Therefore, the Master Plans would not result in population growth that would exceed the population projections accounted for in the RAQS and SIP. Implementation of

the Master Plans would not conflict with or obstruct implementation of an applicable air quality plan and the impact would be less than significant.

Mitigation Measures

Impacts related to conflicts with or obstruction of implementation of an applicable air quality plan would be less than significant. No mitigation is required.

Significance After Mitigation

Impacts related to conflicts with or obstruction of the implementation of an applicable air quality plan would be less than significant without mitigation.

4.2.3.2 Issue 2 – Consistency with Air Quality Standards

Air Quality Issue 2 Summary

Would implementation of the Sewer, Water, and Recycled Water Master Plans violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact: Construction of proposed CIP projects would not result in emissions that would violate air quality standards.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Impacts are less than significant without mitigation.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the Master Plans would violate any air quality standard or contribute substantially to an existing or projected air quality violation including pollutant emissions for which the region is in federal or state non-attainment.

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (APCD Rules 20.2 and 20.3). If these incremental levels are exceeded, an AQIA must be performed. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may be used to evaluate the increased emissions from these projects. For CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to air quality. Because the AQIA screening thresholds do not include VOCs, the screening level for VOCs used in this analysis are from the South Coast Air Quality Management District, which generally has stricter emissions thresholds than SDAPCD. For $PM_{2.5}$, the EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published in 2005, which quantifies significant emissions as 10 tons per year, is used as the screening level threshold. The thresholds listed in Table

4.2-4 below are used in this analysis to determine whether the Master Plans have the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 4.2-4 San Diego Air Pollution Control District Pollutant Thresholds

Pollutant	Pounds Per Hour	Pounds Per Day	Tons Per Year
Carbon monoxide (CO)	100	550	100
Nitrogen Oxides (NOx)	25	250	40
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)	--	55[(1)]	10[(1)]
Oxides of Sulfur (SOx)	25	250	40
Lead (Pb)	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	75[(2)]	13.7[(2)]

(1) EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 2005.
(2) Based on VOC threshold from South Coast Air Quality Management District.
Source: SDAPCD Rule 1501, 20.2 (d)(2), Table 20.2-1.

Impact Analysis

The potential for the implementation of the Master Plans to violate air quality standards through construction activities or during operation of the proposed CIP projects is discussed below.

Construction Emissions

Construction of CIP projects proposed under the Master Plans would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions (PM_{10} and $PM_{2.5}$) and ozone precursor emissions (NO_x, VOC). Operation of heavy equipment and vehicles during the construction phases would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from earth disturbance during site grading and structure demolition, as well as from construction vehicles operating on open fields or dirt roadways within or adjacent to CIP construction sites.

Construction of the Master Plans CIP projects would take place over an approximately 23 year period between 2012 and 2035. Section 2.5 (Project Characteristics) lists the projects that are projected to occur in each year. The actual construction date of the CIP projects is dependent on several factors, including rate of development in the service areas and funding. Some projects do not currently have an estimated start date, and some projects are projected to be on-going, with some construction occurring each year.

The significance thresholds for construction criteria pollutant emissions are based on pounds of emissions per day. Based on the current projected construction dates for the CIP projects, the most intense amount of construction would occur during the year 2014. Therefore, the projected construction for the year 2014 is used as the worst-case construction scenario. For projects that currently do not have a start date, it was assumed that an equal amount of development would occur each year. For annual projects, it was assumed that all on-going projects would be required during the model year. Therefore, the worst-case construction scenario includes the following CIP projects, including year 2014 projects, unknown start date CIP projects, and on-going annual CIP projects:

- Pump Replacement at one location (Sewer CIP Project SR-2)
- Removal of one lift station (Sewer CIP Project SR-6)
- 20,275 feet of sewer pipeline installation (Sewer CIP Projects SR-9, SR-11, SR-16, I-2, I-3, I-4, I-5, and annual contribution of unknown start date projects)
- One wetwell and pump replacement (Sewer CIP Project SR-15)
- 1.5 acres of new sewer access roads (Sewer CIP Project SR-22)
- Installation of a new pump (Sewer CIP Project I-2)
- 0.3 acre of water access roads improvements (Water CIP Project R-4)
- 33,289 feet of water pipeline installation (Water CIP Projects F1, F2, F3, F5, F6, 10, 21, 48, 54, 56, 45, and annual contribution of unknown start date projects)
- Installation of a new PRS (Water CIP Project 21)
- Removal and relocation of an existing "E" tank (Water CIP Project R5 and Recycled Water CIP P77)
- Removal of Ellery Pump Station and replacement with portable pump (Water CIP Project PS2)
- 70,850 feet of recycled water pipeline installation (Recycled Water CIP Projects ES5A, ES7, ES8, ES9, the P71 segment of ES18, and P74)
- Increase the capacity of the Carlsbad Water Recycling Facility (Recycled Water CIP Project P80)

This scenario is conservative because on-going projects would not likely be required every year, and City and CMWD staffing levels are not projected to have the ability to manage construction of the projected 2014 workload and unknown start date projects simultaneously. Several years between 2012 and 2035 do not currently have any projected constructed start dates, including all years beyond year 2022. It is likely that the unknown start date projects would take place during these years as demand requires. Additionally, the analysis assumes that construction of all projects would take place simultaneously. Project with shorter construction durations would be phased through the year and may not overlap.

Construction of the CIP projects is assumed to occur simultaneously for seven months, based on the average construction duration for the worst-case scenario projects provided by the City and CMWD. Trench width and trench depth for pipelines, disturbance areas, dimensions of proposed structures, and demolition estimates were provided by the CMWD and the City for most projects. Where an estimate is not currently available, data provided for a similar project was assumed. It is estimated that 15 percent of all excavated material would be exported, based on information from the City. To be conservative, it is assumed that the same volume would be imported. The disturbance area for the pipeline projects is assumed to be the trench width multiplied by the pipeline length. It is assumed that all trenches would be repaved. For projects that only require removal of pumps or tanks (Sewer CIP Projects SR-2, SR-15, I-2, and Recycled Water CIP P77), it was assumed that construction activities requiring heavy duty construction equipment would consist of operation of cranes and trucks.

VOC emissions from architectural coatings for the new PRS (Water CIP Project 21) and expansion at the CWRF (Recycled Water CIP Project P80) are based on the estimated surface areas of the proposed CIP projects. It was assumed the portable pump would not require structural coating. It is assumed that the proposed CIP projects would utilize a self-priming two coat system. It was assumed that these facilities would only require coating on the exterior. It is assumed that an epoxy coating would be required as well. It was assumed that the PRS would be a 20 foot by 18 feet structure and 10 feet tall, conservatively based on Water CIP Project R6. The dimensions of CWRF expansion facilities were

estimated based on the recommended site plan for the project in the initial study previously prepared for this project (CMWD 1999). It was assumed that approximately half of the facilities would be completed as part of Recycled Water CIP Project P80, and the remaining facilities would later be constructed as part of Recycled Water CIP Project P81. VOC content is based on product data sheets for a self-priming base coat and a top coat and that meet the low VOC standard of 100 grams/liter VOCs. The data sheets also provide an estimate for the number of square feet a gallon of product typically covers. Based on the data sheets, the VOC content of the base coat is assumed to be 0.79 pounds per gallon, and each gallon would cover 176 square feet (Tnemec 2010). The VOC content of the top coat is assumed to be 1.22 pounds per gallon (after required thinning) and each gallon would cover 391 square feet (Tnemec 2008). Coating is assumed to take one week for each coat for the PRS, and one month for each coat for the CWRF tank.

With the exception of the assumptions discussed above, URBEMIS 2007 default values are used to calculate the emissions for the worst-case construction scenario. Table 4.1-5 summarizes the maximum daily construction emissions compared to the thresholds of significance. The construction emissions assume that soil stabilizers would be applied to all inactive areas during grading activities in compliance with SDAPCD Rule 55, Fugitive Dust Control, as discussed in Section 2.6.1 (Regulatory Compliance). As shown in Table 4.2-5, the CIP projects' construction emissions would not exceed the significance thresholds for any criteria air pollutants during construction. In addition, the City and CMWD have committed to the following Best Management Practices (BMPs) which would reduce fugitive dust emissions and other criteria pollutant emissions during construction of CIP projects:

- Water or dust control agents will be applied to active grading areas, unpaved surfaces, and dirt stockpiles as necessary to prevent or suppress particulate matter from becoming airborne. All soil to be stockpiled over 30 days will be protected with a secure tarp or tackifiers to prevent windblown dust.
- Covering/tarping will occur on all vehicles hauling dirt or spoils on public roadways unless additional moisture is added to prevent material blow-off during transport.
- Dirt and debris spilled onto paved surfaces at the project site and on the adjacent roadway will be swept or vacuumed and disposed of at the end of each workday to reduce resuspension of particulate matter caused by vehicle movement. During periods of soil export or import, when there are more than six trips per hour, dirt removal from paved surfaces will be done at least twice daily.
- Disturbed areas will be revegetated as soon as work in the area is complete.
- Electrical power will be supplied from commercial power supply wherever feasible, to avoid or minimize the use of engine-driven generators.
- Air filters on construction equipment engines will be maintained in clean condition according to manufacturers' specifications.
- The construction contractor will comply with an approved traffic control plan to reduce non-project traffic congestion impacts. Methods to reduce construction interference with existing traffic and the prevention of truck queuing around local sensitive receptors will be incorporated into this plan.
- Staging areas for construction equipment will be located as far as practicable from residences.
- Trucks and equipment will not idle for more than 15 minutes when not in service.

Implementation of these measures would future reduce the construction emissions estimated in Table 4.2-5. Therefore, implementation of the Master Plans would result in less than significant emissions of criteria air pollutants during construction of the proposed CIP projects.

Table 4.2-5 Worst-Case Daily Emissions Associated with Construction

Emission Source	Maximum Daily Emissions, pounds per day					
	VOC	NO_x	CO	SOx	PM_{10} [3]	$PM_{2.5}$ [3]
Demolition of Existing Structures	1	6	5	0	1	1
Grading[1]	3	25	14	0	61	13
Trenching	2	13	9	0	1	1
Paving	3	14	10	0	1	1
Building Construction and Equipment Removal or Installation	6	36	25	0	2	2
New PRS and Tank Coating[2]	2	0	0	0	0	0
Total	**17**	**94**	**63**	**0**	**66**	**18**
Significance Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Significant Impact?	No	No	No	No	No	No

(1) Includes hauling of imported and exported trench material

(2) Architectural coasting emissions assume that all architectural coatings would be low-VOC coatings. Based on estimated interior and exterior surface area for each new reservoir, pump station, and lift station. Worker vehicle trips were estimated by URBEMIS 2007.

(3) Estimates of particulate emissions take into account application of soil stabilizers to inactive areas during grading in mandatory compliance with SDAPCD Rule 55.

Source: URBEMIS 2007. See Appendix B for model output.

Operational Emissions

Most of the CIP projects would be new or upgraded pipelines, which would be passive following construction, or improvements to existing facilities that would not result in new sources of criteria pollutants. New pumps and emergency generators that would be installed as a result of the proposed CIP projects would be electric rather than fuel-consuming. The reverse osmosis system installed at the proposed groundwater treatment plant (Water CIP Project 52) would also be electric.

None of the CIP projects would require space heating and no increase in natural gas demand would occur. Landscape equipment would occasionally be used for maintenance; however, the majority of above-ground CIP projects would be constructed at existing facilities. The CIP projects would not increase landscaping operations at these facilities. New landscaping maintenance may be required at the new water pump station (Water CIP Project F14) and to maintain the new access roads (Sewer CIP Projects SR-19, SR-22, and SR-23). Once new landscaping is established, only periodic brush clearing, tree trimming, and weed abatement would be required. Clearing, tree trimming, and weed abatement is anticipated to take place annually at each facility. Due to the limited amount of equipment and time required for maintenance at each facility, equipment usage would not substantially increase compared to existing conditions.

As stated above, the majority of the proposed CIP projects are underground pipelines, improvements to existing facilities, or the construction of new facilities on existing City and CMWD property in Carlsbad, Oceanside, San Marcos, and Vista. Following construction, the underground pipelines would be passive

and would not require regular maintenance. Occasional vehicle trips may be required for repair or inspection, similar to existing pipelines. Existing City and CMWD facilities require vehicle trips for maintenance. New facilities or improvements at these locations would not result in new maintenance vehicle trips. The proposed groundwater pump (Water CIP Project 51) and treatment facility (Water CIP Project 52) would require regular maintenance trips; however, the Simsbury Lift Station and Vancouver Lift Station (Sewer CIP Project SR-11) would be removed and would no longer require maintenance trips. Therefore, the Master Plans would not generate a substantial net increase in vehicle trips and not result in a significant increase in criteria pollutant emissions from vehicle trips. Operation air pollutant emission impacts associated with the proposed CIP projects would be less than significant.

Mitigation Measures

Impacts related to violations of air quality standards would be less than significant. No mitigation is required.

Significance After Mitigation

Impacts related to violations of air quality standards would be less than significant without mitigation.

4.2.3.3 Issue 3 – Sensitive Receptors

Air Quality Issue 3 Summary

Would implementation of the Sewer, Water, and Recycled Water Master Plans expose sensitive receptors to substantial pollutant concentrations?

Impact: The Sewer, Water, and Recycled Water Master Plans would not expose sensitive receptors to substantial pollutant concentrations.	**Mitigation:** No mitigation required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Impacts would be less than significant without mitigation.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the Master Plans would expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

None of the departments within the City or CMWD are listed within the *2010 Air Toxics "Hot Spots" Program Report for San Diego County* as an organization posing possible health risks to San Diego County with regards to TACs. The proposed CIP facilities are similar to existing facilities and would not result in a new source of TACs. As discussed under Issue 2, the proposed CIP projects would not result in a substantial net increase in vehicle trips. Therefore, the Master Plans would not contribute to severe traffic congestion issues with the potential to create carbon monoxide "hotspots," defined as areas where high concentrations of carbon monoxide result from idling vehicles. Additionally, construction of

the CIP projects would not result in substantial pollutant concentrations, including diesel exhaust from construction equipment. Therefore, while sensitive receptors (e.g., schools or hospitals) exist in the vicinity of most of the CIP project components, construction of the CIP projects within the Master Plans would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Mitigation Measures

Impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. No mitigation is required.

Significance After Mitigation

Impacts to sensitive receptors would be less than significant without mitigation.

4.2.3.4 Issue 4 – Objectionable Odors

Air Quality Issue 4 Summary

Would implementation of the Sewer, Water, and Recycled Water Master Plans create objectionable odors affecting a substantial number of people?

Impact: The Sewer, Water, and Recycled Water Master Plans would not create objectionable odors that would affect a substantial number of people.	**Mitigation:** No mitigation required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Impacts would be less than significant without mitigation.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the Master Plans would create objectionable odors affecting a substantial number of people, consistent with APCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700, which prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of the public.

Impact Analysis

Implementation of the Master Plans would have the potential to generate objectionable odors through construction activities and during operation of certain of the proposed CIP projects, as discussed below.

Construction

CARB's Air Quality and Land Use Handbook includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations.

Construction activities are not a typical source of nuisance odors, although construction could result in minor amounts of odorous compounds associated with diesel heavy equipment exhaust or evaporation of volatile compounds within paint or other coatings. The smell of diesel exhaust is due in most part to the presence of sulfur and the creation of hydrocarbons during combustion (Nett Technologies 2010). As shown in Table 4.2-5, construction of the Master Plans would not result in significant emissions of sulfur oxides. Additionally, construction equipment associated with the Master Plans would be operating at various locations throughout the service area and would not take place all at once. Odorous hydrocarbons emissions would dissipate beyond the emissions sources and would only affect receptors in the immediate vicinity of the construction site. Construction-related operations would also be temporary in nature and would cease at the completions of construction. Therefore, construction activities would not result in nuisance odors. Odor impacts associated with construction would be less than significant.

Operation

Sewer CIP Projects

Based on CARB's list of common sources of odor complaints, sewer facilities would have the potential to generate substantial odors. The proposed sewer facilities would transport raw sewage; however, the pipelines are sealed and do not release odors to open air, except where the pipes vent to the outside, such as at manholes and lift stations. Proposed sewer pipelines that would replace existing facilities that include vents would not result in a new source of odor, provided that the new pipelines would include similar odor controlling measures currently implemented by the City. The Sewer Master Plan also includes new, extended, and relocated sewer pipelines that would result in new manholes that could be a new source of odor if not properly maintained. The new manholes would be incorporated in the City's routine maintenance schedule and any odor complaints received by the City would be responded to with additional maintenance. Therefore, odor impacts associated with new manholes would be less than significant.

Sewer CIP Project SR-7 is an odor and prevention assessment throughout the sewer system and CIP Project SR-8 consists of improvements to existing lift stations including replacement or corrections for odor. These projects would be on-going. CIP Project SR-15 includes improvements to the Foxes Landing Lift Station, including odor control improvements at both facilities. These projects would improve odor exposure at locations throughout the City's service area. Additionally, SDAPCD Rule 51 prohibits nuisances, including objectionable odors. The SDAPCD responds to odor complaints by investigating the complaint determining whether the odor violates SDAPCD Rule 51. The inspector takes enforcement action if the source is not in compliance with the SDAPCD rules and regulations (SDAPCD 2010). In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant. Such means include shutdown of odor sources or requirements to control odors using add-on equipment. Therefore, the Sewer CIP projects would not result in significant objectionable odors and impacts would be less than significant.

Water and Recycled Water CIP Projects

Based on CARB's list of common sources of odor complaints, potable water and recycled water projects do not typically result in a source of nuisance odors associated with operation. The Recycled Water Master Plan proposes to increase the capacity of the CWRF, which filters and disinfects secondary treated wastewater, rather than raw sewage, and would not result in substantial odor impacts.

Therefore, none of the proposed CIP projects within the Water or Recycled Water Master Plans would result in a significant odor impact.

Mitigation Measure

Impacts related to odors would be less than significant. No mitigation is required.

Significance After Mitigation

Impacts related to odors would be less than significant without mitigation.

4.2.4 Cumulative Impacts

Air Quality Cumulative Issue Summary

Would implementation of the Sewer, Water, and Recycled Water Master Plans have a cumulatively considerable contribution to a cumulative Air Quality impact considering past, present, and probable future projects?

Cumulative Impact	Significant?	Project Contribution
Consistent with applicable air quality plan.	No	No cumulative impact.
Consistent with air quality standards.	Yes	Not cumulatively considerable.
Sensitive Receptors	Yes	Not cumulatively considerable.
Objectionable Odors	No	No cumulative impact.

4.2.4.1 Consistency with Applicable Air Quality Plans

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. The RAQS and SIP are intended to address cumulative impacts in the SDAB based on future growth predicted by SANDAG. SANDAG uses growth projections from the local jurisdictions' adopted general plans (SANDAG 2008); therefore, development consistent with the applicable general plan would be generally consistent with the growth projections in the air quality plans. Cumulative development is not expected to result in a significant impact in terms of conflicting with the SDAPCD air quality management plans and the California SIP because the majority of cumulative projects would propose development that is consistent with the applicable projections anticipated in the air quality management plans. As stated within Section 4.2.3.1 (Issue 1), calculations of future capacity needs under the Master Plans were based upon the same growth assumptions from SANDAG, the City, and neighboring water districts, and would not result in any growth, or accommodate unplanned growth. Therefore, the Master Plans, in combination with the other cumulative projects, would not conflict with or obstruct implementation of the RAQS or SIP air quality plans. No cumulatively considerable contribution would occur.

4.2.4.2 Consistency with Air Quality Standards

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. The SDAB is designated as being in non-attainment for the federal standards PM_{10} and $PM_{2.5}$, the state 1-hour standard for ozone and the state and federal 8-hour standard for ozone. Therefore, the baseline cumulative impact to the SDAB due to air pollution from stationary and mobile source emissions associated with basin-wide polluting activities is significant.

The County of San Diego's Guidelines for Determining Significance provide guidance for assessing the impact of cumulative emissions of criteria pollutants. According to these guidelines, a project would result in a cumulative impact if the proposed project, alone or in combination with the construction of another cumulative project, would exceed the significance thresholds listed in Table 4.2-4 during construction. During operation, a project would result in a significant cumulative impact if it would conflict with the RAQS or SIP during operation, or exceed the significance thresholds listed in Table 4.2-4.

A localized pollutant concentration analysis is appropriate to the determination of the cumulative impacts of construction emissions because construction emissions would be temporary. Pollutant emissions would disperse or settle out following construction and would not contribute to long-term concentrations of emissions in the San Diego Basin. As shown in Table 4.2-5, the worst-case simultaneous construction of the CIP projects would not exceed the significance thresholds. Construction of the CIP projects would not take place all at once or in the same location. Construction would be spread out throughout the sewer, water, and recycled water service areas; therefore, pollutant emissions at a particular construction site would be less than those shown in Table 4.2-5. Due to the variability in location and construction timing for the cumulative growth that would occur in the service areas, and the relatively short construction periods anticipated for each CIP project, it is not anticipated that construction of the CIP projects would be located close enough to a simultaneous cumulative project so that the combined construction emissions would violate the significance thresholds. Therefore, the Master Plans would not result in a cumulatively considerable contribution to a cumulative impact during construction.

As discussed in Section 4.2.3.2 (Issue 2), operational emissions associated with proposed CIP projects would not violate any air quality standard. Additionally, as discussed in Section 4.2.3.1 (Issue 1), the Master Plans would not conflict with the RAQS or the SIP. Therefore, the Master Plans would comply with the applicable air quality standards and air quality plans. The potential air emissions associated with operation of the proposed CIP projects would not adversely impact the ability of the SDAB to meet the CAAQS and NAAQS. The Master Plans would not result in a cumulatively considerable contribution to a cumulative impact during operation.

4.2.4.3 Sensitive Receptors

The geographic context for the analysis of cumulative impacts relative to sensitive receptors is the sewer, water, and recycled water services areas. Cumulative growth in the service areas would have the potential to increase congestion and potentially result in carbon monoxide hotspots. However, as discussed in Section 4.2.3.3 (Issue 3), the overall net increase in vehicle trips associated with the proposed CIP projects would be negligible. Therefore, implementation of the Master Plans would not

result in cumulatively considerable contribution to a significant cumulative impact related to carbon monoxide hotspots.

The cumulative projects would also have the potential to result in a significant cumulative impact associated with sensitive receptors if, in combination, they would expose sensitive receptors to a substantial concentration of TACs or HAPs that would significantly increase cancer risk. Impacts would generally be localized and not cumulative in nature because impacts related to a particular source of TACs would be limited to the proximity of the source. However, implementation of cumulative projects would have the potential to generate diesel particulate matter from truck trips, which would not be limited to the close proximity of the individual project. Cumulative projects with the potential to generate substantial pollutant concentrations would be required to comply with the federal NESHAPS program and well and the CARB program to reduce diesel emissions. Cumulative projects would be required to comply with the CARB's recommendations for siting new sensitive receptors and requirements for reducing diesel emissions. Stationary sources in the SDAB would be required to obtain operating permits from the SDAPCD and comply with emission thresholds for TACs or HAPs. Therefore, the cumulative projects would result in a less significant cumulative impact associated with sensitive receptors.

4.2.4.4 Objectionable Odors

Impacts relative to objectionable odors are limited to the area immediately surrounding the odor source and are not cumulative in nature because the air emissions that cause odors disperse beyond the sources of the odor. As the emissions disperse, the odor becomes less and less detectable. Additionally, as discussed above in Section 4.2.3.4 (Issue 4), the Sewer Master Plan would not result in substantial nuisance odors with routine maintenance of facilities and a commitment to respond to complaints. Several CIP Projects (SR-7, SR-8, and SR-15) would also install new odor control features at several facilities. Proposed cumulative projects would be required to comply with APCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 and limit nuisance odors. Therefore, the Master Plans, in combination with other cumulative projects, would not result in a cumulatively significant impact associated with objectionable odors.

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